



# Mottolo Pig Farm

## Raymond, NH

U.S. EPA | HAZARDOUS WASTE PROGRAM AT EPA NEW ENGLAND



**THE SUPERFUND PROGRAM** protects human health and the environment by locating, investigating, and cleaning up abandoned hazardous waste sites and engaging communities throughout the process. Many of these sites are complex and need long-term cleanup actions. Those responsible for contamination are held liable for cleanup costs. EPA strives to return previously contaminated land and groundwater to productive use.

### YOUR OPINION COUNTS: OPPORTUNITIES TO COMMENT ON THE PLAN

EPA will be holding a Public Informational Meeting to present its proposed cleanup plan. EPA will also answer any questions residents may have regarding this cleanup proposal.

EPA will also be holding a formal Public Hearing where residents can provide oral comments on EPA's proposed plan that will be entered directly into the public record. To learn more about the details of providing formal comments, please see the section below titled "What is a Formal Comment."

In addition, EPA will be accepting written comments on this cleanup proposal from August 5 - September 4, 2010. You do not have to be a technical expert to

comment. If you have a concern or preference or support EPA's proposed cleanup plan, EPA wants to hear from you before making a final decision on how to protect your community.

*Public Informational Meeting*  
**Wednesday - Aug 4, 2010**  
**at 6 p.m.**

*Formal Public Hearing*  
**Wednesday - Sept 1, 2010**  
**at 6 p.m.**

**Both will take place at:**  
*Raymond High School Cafeteria*  
45 Harriman Hill Rd.  
Raymond, NH 03077

### SUMMARY OF THE PROPOSED PLAN

Based on new information collected at the Mottolo Pig Farm Superfund Site (the Site) in 2009-2010 (Figure 1), EPA is proposing to amend the 1991 Record of Decision (ROD) to change the cleanup approach for addressing contaminated groundwater due to the fact that contaminated groundwater has subsequently migrated from the Mottolo property into nearby residential wells. The 1991 ROD selected natural attenuation of groundwater as a component of the overall remedy at the Site following the successful implementation of source control remedial actions. EPA is proposing a fundamental change to supplement natural attenuation of groundwater with the following:

*Extend the existing Town of Raymond public water supply main approximately two miles to provide alternate water to approximately 25 residents generally in Area 1, as depicted on Figure 1. In addition, long-term monitoring and institutional controls will be required. The estimated total*

*continued >*

#### KEY CONTACTS:

**MIKE JASINSKI**

EPA New England  
Chief of RI/NH  
Superfund Section  
(617) 918-1352  
jasinski.mike@epa.gov

**KELSEY O'NEIL**

EPA New England  
Superfund Community  
Involvement  
(617) 918-1799  
oneil.kelsey@epa.gov

**ANDREW HOFFMAN**

NH DES  
(603) 271-6778  
andrew.hoffman@des.nh.gov

#### GENERAL INFO:

**EPA NEW ENGLAND**

5 Post Office Square  
Suite 100  
Boston, MA 02109-3912  
(617) 918-1111  
www.epa.gov/region1

**TOLL-FREE  
CUSTOMER SERVICE**

1-888-EPA-7341  
  
www.epa.gov/ne/  
superfund/sites/  
mottolo



present value cost for this proposed change is approximately \$4,623,000.

For further information about these meetings, or if you have questions about the facility and its accessibility, please contact EPA Community Involvement Coordinator, Emily Zimmermann, at (617) 918-1037, or toll-free at 1-888-372-7341.

In accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (Section 117), the law that established the Superfund program, and the NCP 40 CFR §300.430(f)(2), this document summarizes EPA's cleanup proposal change for the Mottolo Pig Farm Superfund Site. For detailed information on the options evaluated for use at the Site, see the Mottolo Pig Farm Superfund Site Focused Feasibility Study available for review online at [www.epa.gov/region1/superfund/sites/mottolo](http://www.epa.gov/region1/superfund/sites/mottolo) or at the information repositories at the Dudley-Tucker Library, Raymond, New Hampshire and at EPA's 5 Post Office Sq. Office in Boston.

## A CLOSER LOOK AT EPA'S PROPOSED CLEANUP APPROACH

The 50-acre Site is an abandoned pig farm located on an undeveloped wooded lot within the Town of Raymond, New Hampshire. From 1975 to 1979, the owner of the Mottolo property disposed of chemical manufacturing wastes from two companies into a fill area adjacent to the piggery buildings (also referred to as the former drum disposal area). From 1980 through 1981, EPA performed a removal action involving the excavation, staging, testing, on-site storage, and off-site disposal of approximately 1,600 containers of waste and contaminated soil.

EPA placed the Site on the National Priorities List in 1987. A Remedial Investigation was conducted to determine the nature and extent of contamination at the Site. The investigation indicated that soils, surface water and/or groundwater were contaminated with a number of contaminants including volatile organic compounds (VOCs) and/or arsenic. A Record of Decision (ROD) for the Site was issued by EPA in March 1991 that generally included four major components:

1. installation of a groundwater interceptor trench upgradient of the former drum disposal area to lower the shallow water table and reduce groundwater flow into the area targeted for cleanup;
2. installation of a soil vapor extraction (SVE) system to remove VOCs from the contaminated soil in the former drum disposal area and an area identified as the southern boundary area;
3. natural attenuation and environmental monitoring of the groundwater; and
4. implementation of institutional controls at the Site to ensure that no activities occurred at the Site or in close proximity to the Site which would either affect implementation of the cleanup or cause exposures to contaminated groundwater until groundwater cleanup levels were attained.

The first two components of the selected remedy in the 1991 ROD (i.e., groundwater interceptor trench and soil vapor extraction system) were successfully implemented and equipment was later removed from the Site in 2001. In 2003, the State of New Hampshire, through NHDES, assumed the lead for long-term operation and maintenance at the Site, including long-term monitoring of groundwater.

## SCOPE AND ROLE OF THIS PROPOSAL

In the summer of 2009, NHDES performed expanded groundwater sampling to ensure that Site-related groundwater contamination was not adversely impacting nearby residential wells. This expanded sampling was the result of concerns raised by EPA in their 2008 Five-Year Review report for the Site regarding persistent VOC and arsenic concentrations at levels higher than expected in groundwater on the Site, as well as concerns regarding continuing residential development around the Mottolo property. NHDES initially sampled 34 residential wells surrounding the Site, as part of the expanded sampling program, and found a VOC called trichloroethylene (TCE) in four residential wells and arsenic in 12 residential wells primarily west of the Mottolo property. NHDES immediately provided all affected homes with either bottled water and/or individual water treatment systems. Additional work was then conducted which concluded that Site-related groundwater contamination had been transported to some nearby residential drinking water wells.

As a result, EPA determined that a Focused Feasibility Study (FFS) should be conducted to evaluate remedial actions to address the Site-related contamination found in nearby residential wells. The FFS evaluated three (3) remedial alternatives in detail to address drinking water contamination in residential wells near the Site.

## EPA'S PREFERRED ALTERNATIVE

Based on the alternatives evaluated in the FFS, EPA is now proposing the following additional remedial action for the Site:

### Alternative GW-2: Extension of Public Water Supply

This alternative involves extending the existing Town of Raymond public water supply main approximately two miles to provide alternate water to approximately 25 residents in Area 1, as depicted on Figure 1. Residences will then be completely disconnected from their existing private wells and the wells will be either converted to monitoring wells or decommissioned following NHDES guidelines.

Institutional controls will be required in limited areas surrounding the Site to prevent the installation of any new wells where such use has the potential to hydraulically influence the movement of contaminated groundwater from the Site. Additional new groundwater use in some areas near the Site has a potential of drawing Site contamination into new bedrock wells and/or into other existing residential wells. Field investigations undertaken at the Site in 2010 have identified several bedrock fractures on and around the Site that can transmit significant quantities of groundwater. A pumping test performed in June 2010 found that these fractures are hydraulically connected to the Site and can provide a pathway for transport of contamination from the Site to some of the residential wells surrounding the Mottolo property. As a result, groundwater use restrictions would be required in these limited areas.

Groundwater would be periodically monitored to evaluate whether the plume has moved to other locations (especially residential wells in Areas 2 and 3) and to determine when the groundwater has been restored and achieved the remedial action objectives for the Site. If Site-related contaminants are detected in residential wells outside of Area 1, this alternative

would require that these homes be connected to the public water supply system.

The remedial alternative will use the Five-Year Review Study process to track the progress of meeting the remedial action objectives for the Site and to determine when remediation has been completed.

The estimated total present worth cost for this preferred cleanup plan, including construction, operation and maintenance, and long-term monitoring, is approximately \$4,623,000.

### IMPACTS TO THE LOCAL COMMUNITY

Impacts to the community during implementation of the proposed water supply line extension plan are not expected to be significant.

There will be some temporary disruption to the community along roads where water lines will have to be laid as well as some disruption to homeowners who need to be connected to the water supply line and from well decommissioning work at individual homes.

### SITE DESCRIPTION AND HISTORY

The Mottolo Pig Farm Superfund Site (the Site) is located on Blueberry Hill Road in southeastern Raymond, New Hampshire, approximately 2.5 miles from the intersection of state routes 102 and 107 (Figure 2). The Site, formerly used as a pig farm, is approximately 3 miles south of the Town of Raymond's center and is bounded on all sides by rural residential neighborhoods.

The nearest residence is approximately 600 feet to the west, and all residences surrounding the Mottolo property are serviced by individual water supply wells. The Site includes approximately 50 acres of primarily undeveloped, wooded land (Mottolo property) divided roughly in half by a brook (Brook A), which originates beyond the southern property boundary and flows north through the property, eventually discharging to the Exeter River. Approximately two acres in the southwest portion of the Mottolo property remain cleared near the former piggery buildings and former drum disposal area. Site structures in and near the cleared area include two concrete pads for the former piggery buildings, a shed housing a boiler and former well.

### MOTTOLO PIG FARM SUPERFUND SITE HISTORY:

|            |  |
|------------|--|
| 1975-1979: | Site used by owner to dispose of liquid/solid wastes that contained hazardous substances   |
| 1979:      | The Site was discovered and studies were commenced by the New Hampshire Water Supply and Pollution Control Commission (now NHDES) which brought the Site to the attention of EPA   |
| 1980-1981: | EPA implemented a removal action at the Site to excavate and remove the waste containers at the Site   |
| 1987:      | The Site was listed on the National Priorities List (NPL)  |
| 1988:      | A PRP at the Site, K.J. Quinn & Co. (Quinn), entered into an administrative order on consent and agreed to conduct the Remedial Investigation/Feasibility Study for the Site   |
| 1991:      | A Remedial Investigation/Feasibility Study was completed that provided options to address contaminated soil and groundwater  |
| 1991:      | EPA issued a Record of Decision that identified construction of an interceptor trench and soil vapor extraction system, natural attenuation for groundwater, and institutional controls as the selected remedy for the Site  |
| 1991:      | A Consent Decree was entered between EPA and Quinn requiring Quinn to pay certain EPA costs  |
| 1993-1996: | EPA successfully implemented treatment of soil with soil vapor extraction system   |
| 1997:      | The United States entered into a stipulation in the Chapter 7 bankruptcy of Richard A. Mottolo   |
| 1998:      | First Five-Year Review Report issued by EPA  |
| 1999:      | A Second Consent Decree was entered requiring Quinn to pay a portion of EPA's past and future costs  |
| 2001:      | Soil Vapor Extraction equipment and groundwater interceptor trench removed since soil cleanup goals in 1991 ROD were achieved  |
| 2003:      | Second Five-Year Review Report issued by EPA   |
| 2003:      | NHDES began quarterly sampling of residential wells  |
| 2005:      | Windmere Drive residential development established   |
| 2008:      | Groundwater Management Zone Permit issued by NHDES for the Site but not recorded with the registry of deeds  |
| 2008:      | Third Five-Year Review Report issued by EPA  |
| 2009:      | NHDES conducted multiple residential well sampling events at up to 70 locations near the Site. EPA conducted additional soil investigation at the Site. NHDES installed additional monitoring wells and conducted additional investigations at the Site and at residential wells |
| 2010:      | "Preliminary Interpretation of VOC, Arsenic, and Uranium 2009 Data in Residential and Monitoring Wells (NHDES No. 198704094)" report issued, Focused Feasibility Study completed, and EPA issues this Proposed Plan.   |

## WHY CLEANUP IS NEEDED

Since the ROD was issued in 1991, land use in the vicinity of the Mottolo property has changed significantly. A number of residential properties now surround the Mottolo property and all residential properties currently use individual wells to meet their water needs. As a result, starting in 2003, NHDES sampled some residential wells located south of the Site. During the summer of 2009, NHDES performed expanded groundwater sampling to ensure that Site-related groundwater contamination was not adversely impacting nearby residential wells. NHDES initially sampled 34 residential wells surrounding the Site and found trichloroethylene (TCE) in four residential wells and arsenic in 12 residential wells that exceeded drinking water standards, primarily in homes located west of the Site. NHDES immediately provided all affected homes with either bottled water and/or individual water treatment systems.

In the fall of 2009, GZA GeoEnvironmental, Inc. (GZA) was contracted by NHDES to perform additional data collection activities to further refine EPA's and the State's understanding of the impact of groundwater contamination on residential wells near the Mottolo property. GZA performed the installation of deep bedrock monitoring wells, geophysical logging of the new deep bedrock wells, sampling of numerous residential and Site wells, geophysical logging of several residential wells, depth interval sampling of a contaminated residential well, measuring of deep bedrock groundwater levels in Site and residential wells, depth interval sampling of the Site deep bedrock wells, and evaluating the collected data. GZA issued a preliminary interpretation report in March 2010 that summarized these investigation activities. In addition, a pumping test was conducted in June 2010 to better define the area that could be impacted by Site-related contaminated groundwater. These data, as well as additional information, are included in the 2010 Focused Feasibility Study (FFS).

Based upon these investigations, EPA and NHDES have determined that groundwater is very likely influenced by residential well pumping in the vicinity of the Mottolo property, particularly to the west and south. As a result, arsenic and TCE are being detected in some residential wells on Blueberry Hill Road, Windmere Drive and Strawberry Lane; in some cases, these con-

taminants have been detected above federal and state drinking water standards. Increases in contaminant concentrations in those wells where contamination has been detected is likely to occur. Installation of new wells could also result in contamination spreading to other wells over time. As a result, additional measures are needed to prevent exposure to contaminated drinking water and to prevent the further migration of contaminated groundwater in order to protect human health.

### Contaminants of Concern

Evaluation of groundwater sampling results from the 2009-2010 sampling events indicate that groundwater outside the Mottolo property is contaminated with TCE and arsenic at levels that exceed Federal and State drinking water standards.

### Contaminated Media

Soil testing indicates that EPA has successfully addressed the majority of VOC-contaminated soils in the former disposal area above the bedrock. In addition, groundwater sampling indicates VOC concentrations, including TCE concentrations, downgradient of the source area, are decreasing over time as was contemplated in the 1991 ROD but have not yet reached safe levels. The studies conducted in 2009 show that the primary source for TCE contamination detected in groundwater at the Site is likely residual contaminant mass remaining in subsurface soils and/or bedrock. This contamination has been pulled via the fractured bedrock aquifer into surrounding residential wells.

Elevated arsenic concentrations in groundwater samples collected from residential wells on Windmere Drive, Blueberry Hill Road and Strawberry Lane are likely associated with Site-related changes in groundwater geochemistry caused by biologic processes that naturally degrade some of the VOCs. These changes are causing increased mobilization of arsenic above background levels that would not otherwise occur under natural conditions based upon the presence of TCE in some of the wells and elevated pH levels. The Site-related geochemistry groundwater conditions along with elevated pH levels enhance the release of arsenic into the groundwater and result in greater concentrations of arsenic than would normally occur.

## Risk and Exposure Pathways Considered

Exposure occurs when people eat, drink, breathe or have direct skin contact with a substance or waste material. Based on existing or reasonably anticipated future land use, EPA develops different exposure scenarios to determine potential risk, appropriate cleanup levels, and potential cleanup approaches to meet the site cleanup goals.

Human health and ecological risk assessments were prepared as part of the 1991 Remedial Investigation which included an evaluation of potential cancer risks and non-cancer health effects as a result of future exposure to site contaminants in groundwater. Exposure to contaminants in groundwater via residential use included ingestion, dermal absorption, and inhalation. No exposure to groundwater was known to be occurring at the time of the 1991 risk assessment.

Based on the findings in the 1991 baseline risk assessment, EPA also concluded that the risk posed by the future potential residential use of groundwater from wells could exceed the acceptable cancer risk range. The principal contributors to this risk included arsenic, vinyl chloride and trichloroethylene. Cleanup goals were established in the ROD for these contaminants based upon Federal and State drinking water standards.

As discussed above, changes in land use have occurred since the 1991 Remedial Investigation. Specifically, land use surrounding portions of the Site has changed from undeveloped to residential use. Residential use of contaminated groundwater is now occurring and residents may be exposed to contaminants through ingestion, dermal absorption and inhalation at levels that exceed drinking water standards which may pose health concerns. Contaminants that exceed drinking water standards/cleanup goals include arsenic and TCE.

## CLEANUP ALTERNATIVES CONSIDERED

Once areas of risk have been identified at a site, cleanup alternatives are developed to address the identified risks and to achieve site-specific cleanup objectives. A short synopsis of each alternative considered is outlined below. A more detailed description and analysis of each alternative developed to reduce risks from contaminated groundwater is presented in the Focused Feasibility Study.

Cleanup remedial action objectives developed to address drinking water contamination are summarized below:

- Prevent exposure to contaminants from residential wells used as drinking water wells where contaminants exceed cleanup goals identified in the 1991 ROD/federal and State drinking water standards
- Prevent the use of groundwater in the future where such use has the potential to hydraulically influence the movement of groundwater contamination until cleanup goals established in the 1991 ROD and federal and state drinking water standards are met.

### Alternative GW-1: No Action

The "No Action" alternative is provided for comparison purposes. Only scheduled monitoring would occur under this option.

### Alternative GW-2: Extension of Public Water Supply

This proposed alternative involves the extension of the existing, 12-inch water supply main in Raymond along Route 102 and Blueberry Hill Road to the intersection with Windmere Drive (approximately 2 miles) to provide alternate water to approximately 25 residents generally in Area 1 as depicted on Figure 1. The residences will be completely disconnected from their existing private wells and the wells will either be converted to monitoring wells or decommissioned in accordance with NHDES guidelines.

The new 12-inch ductile iron water main will then service Area 1 using 8-inch ductile iron pipes with copper service connections to each residence. Each residence will also receive

plumbing modifications to allow connection from house plumbing to municipal piping, and the installation of water meters for individual metering of water usage to each residence. In accordance with Town of Raymond standards, fire hydrants are to be installed every 1,000+/- feet with isolation valves in the mainline at each hydrant.

Institutional controls will be required in limited areas surrounding the Site to prevent the installation of any new wells where such use has the potential to hydraulically influence the movement of contaminated groundwater. Additional new groundwater use in some areas near the Site has a potential of drawing Site contamination into new bedrock wells and/or into other existing residential wells due to a strong hydraulic connection to the contamination on the Site. As a result, use restrictions would be required in these limited areas.

Groundwater monitoring of Site wells and selected residential wells (especially those in Areas 2 and 3) would be performed to confirm that natural attenuation is continuing to reduce groundwater concentrations over time and that contamination has not spread to additional residential wells in these areas.

If monitoring indicates that contaminated groundwater has migrated into additional residential wells outside of Area 1, these homes would be connected to the public water supply.

This remedial alternative will also include the Five-Year Review Study process to track the progress of meeting the remedial action objectives and to evaluate the protectiveness of the remedy.

### Alternative GW-3: Whole House Treatment Systems

This alternative involves the installation and maintenance of treatment systems to treat all water pumped from each of the residential wells located generally in Area 1, as depicted on Figure 1. Each system will be designed with redundant treatment units to address both VOC and arsenic contamination above drinking water standards due to Site-related conditions. The treatment systems will require periodic maintenance in order for them to remain effective in providing clean water to each residence. The influent and effluent of the treatment systems will need to be sampled at least twice annually

for the first five years and annually thereafter. It is anticipated that certain components of the treatment equipment may need to be replaced approximately every ten years. Some residences may also require radon treatment and/or water softener systems and/or backwash filters (depending on influent characteristics of their well water) in order for the treatment units to operate effectively.

Institutional controls will be required in limited areas surrounding the Site to prevent the installation of any new wells where such use has the potential to hydraulically influence the movement of contaminated groundwater. Additional new groundwater use in some areas near the Site has a potential of drawing Site contamination into new bedrock wells and/or into other existing residential wells due to a strong hydraulic connection to the contamination on the Site. As a result, use restrictions would be required in these limited areas.

Groundwater monitoring of Site wells and selected residential wells (especially in Areas 2 and 3) would be performed to confirm that natural attenuation is continuing to reduce groundwater concentrations over time and that contamination has not spread to additional residential wells in these areas.

If monitoring indicates that contaminated groundwater has migrated into additional residential wells outside of Area 1, these homes would be connected to whole house treatment systems.

This remedial alternative will also include the Five-Year Review Study process to track the progress of meeting the remedial action objectives and to evaluate the protectiveness of the remedy.



## EPA'S NINE CRITERIA FOR CHOOSING A CLEANUP PLAN

EPA uses nine criteria to evaluate alternatives and select a final cleanup plan (called a remedial action) that meet the statutory goals of protecting human health and the environment, maintaining protection over time, and minimizing contamination.

The nine individual criteria:

### Threshold Criteria

1. Overall protection of human health and the environment: Will it protect you and the plant and animal life on and near the site? EPA will not choose a plan that does not meet this basic criterion.

2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs): Does the alternative meet all federal and state environmental statutes, regulations and requirements? The chosen cleanup plan must meet this criterion.

### Balancing Criteria

3. Long-term effectiveness and permanence: Will the effects of the cleanup plan last or could contamination cause future risk?

4. Reduction of toxicity, mobility or volume through treatment: Using treatment, does the alternative reduce the harmful effects of the contaminants, the spread of contaminants, and the amount of contaminated material?

5. Short-term effectiveness: How soon will site risks be adequately reduced? Could the cleanup cause short-term hazards to workers, residents or the environment?

6. Implementability: Is the alternative technically feasible? Are the right goods and services (i.e., treatment machinery, space at an approved disposal facility) available for the plan?

7. Cost: What is the total cost of an alternative over time? EPA must find a plan that gives necessary protection for a reasonable cost.

### Modifying Criteria

8. State acceptance: Do state environmental agencies agree with EPA's proposal?

9. Community acceptance: What objections, suggestions or modifications do the public offer during the comment period?

## DRINKING WATER CLEANUP ALTERNATIVES COMPARISON

The alternatives were compared with each other to identify how well each alternative met the evaluation criteria. A detailed comparative analysis is included in the FFS and a summary of this analysis is provided below. A detailed discussion consistent with CERCLA requirements is provided in the FFS and summarized below.

### 1. Overall Protection of Human Health and the Environment

Alternative GW-1 (No Action) would be the least protective of the three alternatives. It would offer no protection to human health and the environment. Potential risks from exposure to contaminated groundwater/drinking water would remain. Alternative GW-2 (Extension of Public Water Supply) would provide significantly greater protection than Alternative GW-1 (No Action) because Raymond town water will be provided to the approximately 25 residents located in Area 1 and institutional controls would be implemented to restrict/prevent the installation of any new groundwater wells in a limited area to prevent contamination from moving to other residential wells outside the area connected to the public water supply system until cleanup goals are achieved. Alternative GW-3 (Whole House Treatment Systems) would also be highly protective of human health and the environment. Similar to Alternative GW-2 (Extension of Public Water Supply), each home within Area 1 would be provided safe drinking water; however, under this Alternative, safe drinking water is provided to each residence by installation and maintenance of individual whole house treatment systems. As with Alternative GW-2 (Extension of Public Water Supply), institutional controls would be implemented to restrict/prevent the installation of any new groundwater wells in a limited area to prevent contamination from moving to other residential wells outside the area connected to whole health treatment systems until cleanup goals are achieved.

### 2. Compliance with ARARs

Alternative GW-1 (No Action) will not meet federal and state drinking water requirements. Alternative GW-2 (Extension of Public Water Supply) and Alternative GW-3 (Whole House Treatment Systems) will meet all ARARs.

### 3. Long-term Effectiveness and Permanence

The residual risk remains high under Alternative GW-1 (No Action) as there would be continued exposures to contaminated drinking water above both federal and state standards. The magnitude of the residual risk is low under Alternatives GW-2 (Extension of Public Water Supply) and GW-3 (Whole House Treatment Systems), as safe drinking water is being provided by either supplying public water or by treating the groundwater to safe standards at each home prior to consumption.

Both Alternatives GW-2 (Extension of Public Water Supply) and GW-3 (Whole House Treatment Systems) rely on institutional controls to restrict/prevent the installation of any new groundwater wells in a limited area to prevent contamination from moving to other residential wells outside the area being addressed. These controls are reliable if adequately monitored, maintained and, if necessary, enforced.

Both Alternatives GW-2 (Extension of Public Water Supply) and GW-3 (Whole House Treatment Systems) rely on monitoring to confirm contaminant concentrations are reducing over time and to confirm that contamination has not spread to other residential wells in the area. Monitoring is a very reliable means to track changes in groundwater and residential wells. In addition, Alternative GW-3 (Whole House Treatment Systems) will also need to rely on frequent monitoring of influent and effluent waters in/from each whole house treatment system to confirm that there is no incidental exposure to contaminants and to evaluate the need for equipment repair and/or replacement.

While Alternative GW-3 (Whole House Treatment Systems) has the potential for incidental exposure to contaminated groundwater through problems with treatment components, this is considered unlikely given that contaminate concentrations in residential wells are relatively low. Furthermore, each treatment system has multiple filters to capture contamination, routine maintenance of the systems is expected to occur, annual treatment component replacement is planned, and monitoring is a reliable means to track issues with whole house treatment systems.

#### 4. Reduction of Toxicity, Mobility, or Volume through Treatment

Neither Alternative GW-1 (No Action) nor GW-2 (Extension of Public Water Supply) use treatment to reduce toxicity, mobility or volume. There is some reduction in mobility, but not through treatment, under Alternative GW-2 (Extension of Public Water Supply) as residential wells in Area 1 will be decommissioned. Alternative GW-3 (Whole House Treatment Systems) uses treatment to reduce contaminant toxicity, mobility and volume but the reduction is very small.

#### 5. Short-Term Effectiveness

As no active remedial action is taken under Alternative GW-1 (No Action), there are no short-term impacts to the community, workers, or the environment. No risk reduction would occur in the short term.

For Alternatives GW-2 (Extension of Public Water Supply) and GW-3 (Whole House Treatment Systems), safe drinking water will continue to be provided by the state to those residents currently impacted by Site-related contamination until construction/implementation of Alternatives GW-2 (Extension of Public Water Supply) and GW-3 (Whole House Treatment Systems) is complete.

Construction/implementation of Alternatives GW-2 (Extension of Public Water Supply) and GW-3 (Whole House Treatment Systems) would not have any significant impacts on the local community and the environment. There will be some temporary traffic disruptions along roads where the municipal water line extension will have to be laid as well as minor disruptions to residents in Area 1 from hooking up to the water line and well decommissioning under Alternative GW-2 (Extension of Public Water Supply). For both Alternatives GW-2 (Extension of Public Water Supply) and GW-3 (Whole House Treatment Systems), workers would perform all work in accordance with Site-specific health and safety plans.

It is anticipated that the time required to design/construct/implement Alternative GW-2 (Extension of Public Water Supply) will be approximately 18-24 months, while the time required for Alternative GW-3 (Whole House Treatment Systems) will be 12 months. These estimates are approximate depending on field conditions encountered during the water line extension work and the installation of each particular whole house treatment system.

#### 6. Implementability

Alternative GW-1 (No Action) is the easiest to implement as no activities must be undertaken. Both Alternatives GW-2 (Extension of Public Water Supply) and GW-3 (Whole House Treatment Systems) are easily constructed and operated. Both Alternatives will require long-term groundwater monitoring but GW-3 (Whole House Treatment Systems) requires additional, frequent monitoring of each whole house treatment system to ensure that clean water is being provided to each resident. Both the use of public water (Alternative GW-2 (Extension of Public Water Supply)) and whole house treatment systems (Alternative GW-3 (Whole House Treatment Systems)) are highly reliable technologies to address contaminants in drinking water. While Alternative GW-3 (Whole House Treatment Systems) has the potential for incidental exposure to contaminated groundwater through problems with treatment components, this is considered unlikely given that contaminant concentrations in residential wells are relatively low, each system has multiple filters to capture contamination and monitoring is a very reliable means to track issues with whole house treatment systems. Town officials have indicated support for a water line and may be reluctant to agree to the use of whole house treatment systems for long-term groundwater use, thereby making Alternative GW-3 (Whole House Treatment Systems) more difficult to implement than Alternative GW-2 (Extension of Public Water Supply). On the other hand, Alternative GW-2 (Extension of Public Water Supply) would require homeowners to agree to pay an annual fee for public water (estimated approx. \$440/year).

Both Alternatives GW-2 (Extension of Public Water Supply) and GW-3 (Whole House Treatment Systems) will require coordination with adjacent property owners and appropriate federal, state, and local agencies to implement institutional controls. Once put in place, institutional controls can be fairly easily monitored. Effectiveness is dependent on enforcement. Institutional controls on some properties may be more difficult to implement under Alternative GW-3 (Whole House Treatment Systems) as there may be limited or no viable options for alternative water in some cases thereby preventing development of some properties. This is expected to be a significant implementation issue.

#### 7. Cost

The estimated total present value cost for each of the remedial alternatives under consideration are as follows:

GW-1 (No Action): \$1,854,000  
 GW-2 (Extension of Public Water Supply): \$4,623,000  
 GW-3 (Whole House Treatment Systems): \$3,744,000

#### 8. State Acceptance

NHDES has taken the lead in preparing the Focused Feasibility Study through its contractor GZA. EPA and NHDES have had substantive discussions regarding the Site and the cleanup. NHDES supports Alternative GW-2 - Extension of Public Water Supply as the Proposed Cleanup Alternative.

#### 9. Community Acceptance

Community acceptance will be evaluated based on the feedback received during the public hearing and the public comment period.

### WHY EPA RECOMMENDS THIS CLEANUP PROPOSAL CHANGE

Based on the results of the Remedial Investigation, the human health risk assessment, the assessment of current data and review of the FFS, EPA recommends this proposed drinking water plan for the Mottolo Pig Farm Superfund Site because EPA believes it achieves the best balance among EPA's nine criteria used to evaluate various alternatives.

The proposed plan is protective of both human health and the environment while, at the same time, is cost effective. This cleanup plan provides both short- and long-term protection of human health and the environment; attains federal and state applicable or relevant and appropriate requirements (ARARs); and utilizes permanent solutions and institutional controls to prevent unacceptable exposure.

While both Alternatives GW-2 (Extension of Public Water Supply) and GW-3 (Whole House Treatment Systems) are protective of both human health and the environment, comply with ARARs, and are cost-effective, Alternative GW-3 (Whole House Treatment Systems) is expected to be more difficult to implement and

maintain over the long term. While Alternative GW-3 (Whole House Treatment Systems) costs less than Alternative GW-2 (Extension of Public Water Supply), EPA believes the difference in cost is not so significant as to outweigh the benefit of easier implementability and long-term protectiveness under Alternative GW-2 (Extension of Public Water Supply).

## NEXT STEPS

During the fall of 2010, EPA expects to have reviewed and evaluated all comments received on this proposal and will sign an Amended Record of Decision, which is a document that describes the chosen cleanup plan. The Amended Record of Decision and a summary of responses to any public comments (the Responsiveness Summary) will then be made available to the public at the Dudley-Tucker Public Library and at EPA's Records Center in Boston, and via the internet. EPA will announce the final decision on the cleanup plan through the local media and via EPA's website.

After the Amended Record of Decision is signed, EPA will work closely with the NHDES and Town of Raymond to help design and construct the final remedy selected in the Amended ROD.

## WHAT IS A FORMAL COMMENT?

During the 30-day formal comment period, EPA will accept formal written comments and hold a hearing to accept oral comments. EPA uses public comments to improve the cleanup proposal.

To make a formal comment you need only speak during the Public Hearing on August 31, 2010 or submit a written comment during the comment period. Although EPA cannot respond to comments submitted at this Public Hearing, EPA will respond to both your oral and written comments in the written Responsiveness Summary that will be included with the Amended Record of Decision. EPA will review the transcript of all formal comments received at the hearing, and all written comments received during the formal comment period, before making a final cleanup decision.

The fact that EPA responds to formal comments in writing at the time the Amended Record of Decision is issued, does not mean that EPA cannot answer questions. EPA will be holding an

informational presentation prior to the start of the formal hearing on August 31, 2010. Additionally, once the meeting moderator announces that the formal hearing portion of the meeting is closed, EPA can respond to informal questions.

Your formal comment will become part of the official public record. The transcript of comments and EPA's written responses will be included in a document called a Responsiveness Summary when EPA releases the final cleanup decision.

## FOR MORE INFORMATION

To help the public understand and comment on the proposal for the Mottolo Pig Farm Superfund Site, an administrative record has been prepared for the Site. The administrative record includes all documents EPA has considered or relied upon in making this proposal. All of the technical and public information publications prepared to date for the Site that are part of the administrative record are available at the following information repositories:

### U.S. EPA Records Center

5 Post Office Sq., Suite 100  
Mail Code: OSRR02-3  
Boston, MA 02109-3912

Ph. (617) 918-1440

Hours: 9:00 a.m.-5:00 p.m.  
Monday through Friday

### Dudley-Tucker Library

6 Epping Street  
P.O. Box 909  
Raymond, NH 03077-0909

Ph. (603) 895-2633

Information is also available for review online at:  
[www.epa.gov/region1/superfund/sites/mottolo](http://www.epa.gov/region1/superfund/sites/mottolo)

## SEND US YOUR COMMENTS

Provide EPA with your written comments about the Proposed Plan for the Mottolo Pig Farm Superfund Site. You can use the form below to send written comments. Please mail this form and any additional written comments, postmarked no later than September 4, 2010 to:

Michael Jasinski  
Chief, NH/RI Superfund Section  
U.S. EPA Region 1  
5 Post Office Sq., Suite 100  
Mail Code OSRR07-1  
Boston, MA 02109-3912

Submit comments by e-mail to:  
[jasinski.mike@epa.gov](mailto:jasinski.mike@epa.gov)



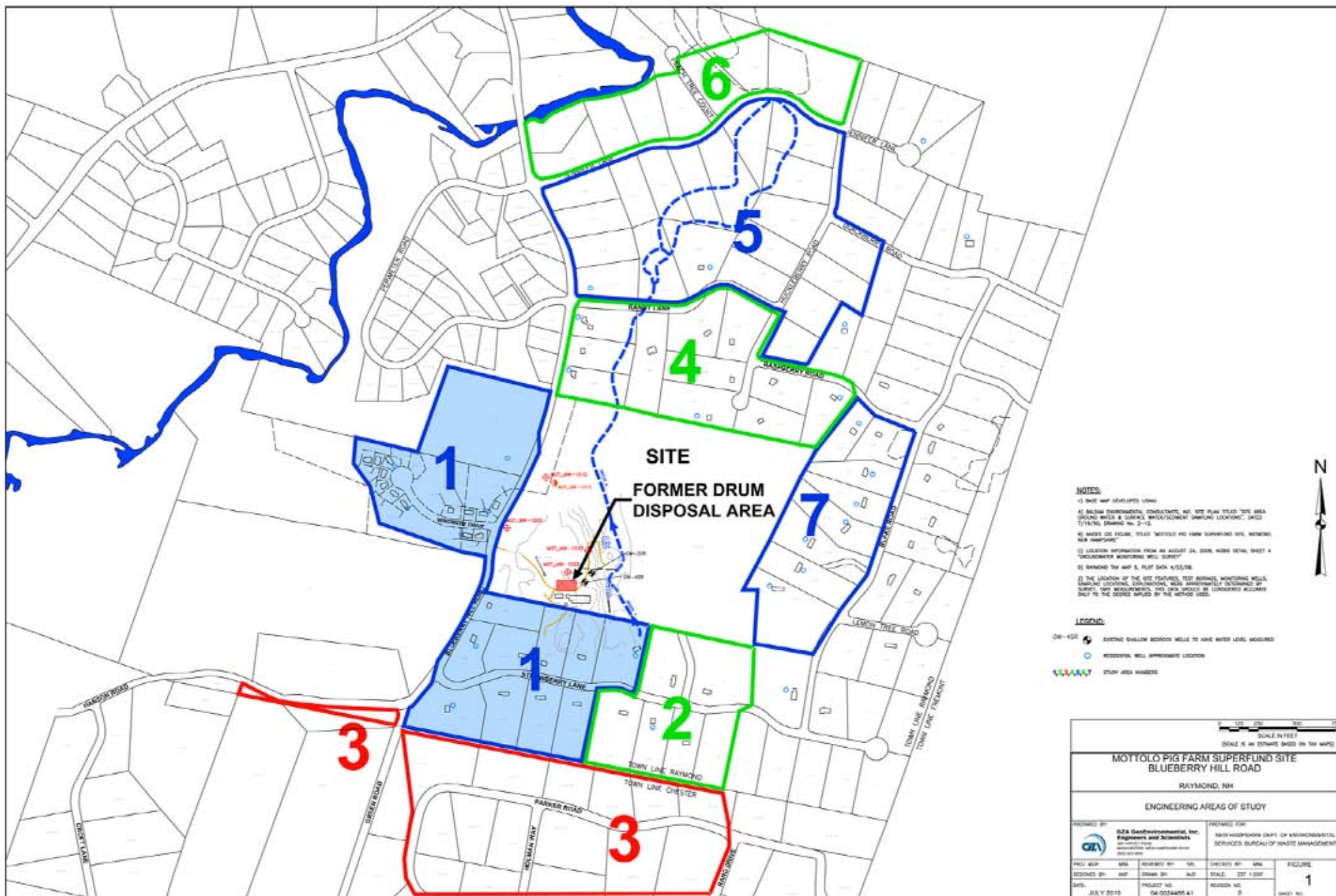




Figure 2. Mottolo Pig Farm Superfund Site Location